

IN THE CLAIMS:

1. (Currently amended) An implantable medical device for supporting bone comprising:
 - a support element having:
 - a top portion, and
 - a bottom portion having a bottom surface and one or more apertures passing therethrough, the bottom surface of the support element including a receiver configured to receive a plurality of anchor assemblies; and
 - the plurality of anchor assemblies, wherein each of the anchor assemblies includes:
 - a means for locking the anchor assembly to the bottom portion of the support element, wherein the means for locking includes a locking aperture such that when the medical device is assembled, the means for locking the anchor assembly and the plurality of anchor assemblies do not pass through the support element,
 - wherein the plurality of anchor assemblies are configured to be implanted into bone, and further comprising a base and a base head where the base head is configured to lock the base head to the base using a threaded base aperture and a setscrew; wherein turning the setscrew into the threaded base aperture results in engagement of the base head to effect locking.
2. (Previously presented) The implantable medical device of claim 1, wherein the bone supported is selected from the group consisting of a spine, femur, tibia, fibula, humerus, radius, ulna, calcaneous, and a pelvis.
3. (Currently amended) The implantable medical device of claim 1, wherein further comprising ~~a base including a base head where~~ the base head is movably disposed within the anchor assembly.
4. (Previously presented) The implantable medical device of claim 1, wherein the one or more

apertures have a dimensional configuration providing access to the base and the means for locking the base to the anchor assembly through the top portion of the support element.

5. (Previously presented) The implantable medical device of claim 1, wherein the support element is elongate and sized to substantially span two or more vertebrae.

6. (Original) The implantable medical device of claim 1, wherein the support element has a shape selected from the group consisting of a board, plate, elongated cross-section, oval, square, I-beam and a rod.

Claims 7-9 (Cancelled)

10. (Original) The implantable medical device of claim 1, wherein the receiver is integrally disposed within the bottom surface of the bottom portion of the support element.

11. (Original) The implantable medical device of claim 1, wherein the receiver is attached to the bottom surface of the bottom portion of the support element.

12. (Original) The implantable medical device of claim 1, wherein the receiver has configuration selected from the group consisting of a slot, groove, track, dove tail and a one-way snap-in configuration.

13. (Previously presented) The implantable medical device of claim 1, wherein the receiver has a 90-degree twist-in configuration such that the anchor assemblies are locked when the base is rotated in the 90-degree twist-in configuration.

14. (Original) The implantable medical device of claim 1, wherein the receiver and the anchor assembly are configured in an interconnecting geometry comprising a T-slot.

15. (Original) The implantable medical device of claim 14, wherein the T-slot configuration of the receiver comprises a planar upper face, a planar lower face and a planar medial face.
16. (Original) The implantable medical device of claim 1, wherein the receiver substantially spans the length of the bottom surface.
17. (Original) The implantable medical device of claim 1, wherein the receiver is comprised of a plurality of ends.
18. (Original) The implantable medical device of claim 17, wherein a first end of the receiver is open and a second end is closed.
19. (Original) The implantable medical device of claim 17, wherein a first and second end of the receiver are both open.
20. (Original) The implantable medical device of claim 17, wherein first and second ends of the receiver are both closed.
21. (Original) The implantable medical device of claim 1, wherein the receiver is comprised of a plurality of access ports sized for coupling the anchor assembly to the receiver distally from the receiver ends.
22. (Original) The implantable medical device of claim 1, wherein the receiver is configured to receive the anchor assemblies in two dimensions.
23. (Original) The implantable medical device of claim 1, wherein the anchor assembly has a configuration selected from the group consisting of a slot, groove, track, dove tail and a one-way snap-in configuration.

24. (Original) The implantable medical device of claim 1, wherein the anchor assembly has a 90-degree twist-in configuration.

25. (Original) The implantable medical device of claim 1, wherein the anchor assembly has a T-slot configuration.

Claims 26-27 (Cancelled)

28. (Currently amended) ~~The implantable medical device of claim 15,~~ An implantable medical device for supporting bone comprising:

a support element having:

a top portion, and

a bottom portion having a bottom surface and one or more apertures passing therethrough, the bottom surface of the support element including a receiver configured to receive a plurality of anchor assemblies; and

the plurality of anchor assemblies, wherein each of the anchor assemblies includes:

a means for locking the anchor assembly to the bottom portion of the support element, wherein the means for locking includes a locking aperture such that when the medical device is assembled, the means for locking the anchor assembly and the plurality of anchor assemblies do not pass through the support element,

wherein the plurality of anchor assemblies are configured to be implanted into bone, wherein the receiver and the anchor assembly are configured in an interconnecting geometry comprising a T-slot and the T-slot configuration of the receiver comprises a planar upper face, a planar lower face and a planar medial face, wherein the means for locking the anchor assembly to the support element includes

a setscrew disposed within the locking aperture;

wherein the setscrew and locking aperture are threaded so as to lockably engage the receiver planar upper face upon turning; and

wherein upon so engaging the receiver planar upper face, the setscrew causes the anchor assembly to press against the receiver lower planar face to effect locking.

29. (Currently amended) ~~The implantable medical device of claim 15,~~ ; An implantable medical device for supporting bone comprising:

a support element having:

a top portion, and

a bottom portion having a bottom surface and one or more apertures passing therethrough, the bottom surface of the support element including a receiver configured to receive a plurality of anchor assemblies; and

the plurality of anchor assemblies, wherein each of the anchor assemblies includes:

a means for locking the anchor assembly to the bottom portion of the support element, wherein the means for locking includes a locking aperture such that when the medical device is assembled, the means for locking the anchor assembly and the plurality of anchor assemblies do not pass through the support element,

wherein the plurality of anchor assemblies are configured to be implanted into bone, wherein the receiver and the anchor assembly are configured in an interconnecting geometry comprising a T-slot and the T-slot configuration of the receiver comprises a planar upper face, a planar lower face and a planar medial face, wherein the means for locking the anchor assembly to the support element includes

a cam disposed within the locking aperture;

wherein the cam is disposed so as to lockably engage the receiver planar upper face upon turning; and

wherein upon so engaging the receiver planar upper face, the cam causes the anchor assembly to press against the receiver lower planar face to effect locking.

30. (Currently amended) ~~The implantable medical device of claim 15, ;~~ An implantable medical device for supporting bone comprising:

a support element having:

a top portion, and

a bottom portion having a bottom surface and one or more apertures passing therethrough, the bottom surface of the support element including a receiver configured to receive a plurality of anchor assemblies; and

the plurality of anchor assemblies, wherein each of the anchor assemblies includes:

a means for locking the anchor assembly to the bottom portion of the support element, wherein the means for locking includes a locking aperture such that when the medical device is assembled, the means for locking the anchor assembly and the plurality of anchor assemblies do not pass through the support element,

wherein the plurality of anchor assemblies are configured to be implanted into bone, wherein the receiver and the anchor assembly are configured in an interconnecting geometry comprising a T-slot and the T-slot configuration of the receiver comprises a planar upper face, a planar lower face and a planar medial face, wherein the means for locking the anchor assembly to the support element is comprised of a threaded blind aperture having a slot substantially aligned longitudinally with the receiver thereby providing expandable walls, a floor having a cut channel therethrough and a setscrew; and

wherein turning the setscrew into the blind aperture causes the walls to expand outwardly;

wherein the walls engage the receiver planar medial surface to effect locking.

31. (Currently amended) The implantable medical device of claim 1, wherein the ~~anchor assemblies further comprise a base~~ is selected from the group consisting of a screw, staple, nail, hook and a pin.

32. (Previously presented) The implantable medical device of claim 31, wherein the screw is a bone screw.

33. (Previously presented) The implantable medical device of claim 32, wherein the bone screw is a pedicle screw.

34. (Original) The implantable medical device of claim 3, wherein the base head is selected from the group consisting of a polyaxial and a hinge-type connector.

35. (Original) The implantable medical device of claim 3, wherein the base is comprised of a means for locking the base in a desired position.

Claim 36 (Cancelled)

37. (Previously presented) An implantable medical device for supporting bone comprising:

- a support element having:

- a top portion, and

- a bottom portion having a bottom surface and one or more apertures passing therethrough, the bottom surface of the support element including a receiver configured to receive a plurality of anchor assemblies; and

- the plurality of anchor assemblies, wherein each of the anchor assemblies includes:

- a means for locking the anchor assembly to the bottom portion of the support element, wherein the means for locking includes a locking aperture such that when the medical device is assembled, the plurality of anchor assemblies do not pass through the support element; and

- a base and a base head where the base head is configured to lock the base head to the base using a cam;

wherein the cam is disposed such that turning the cam results in engagement of the base head with the cam to effect locking, wherein the plurality of anchor assemblies are configured to be implanted into bone.

Claims 38- 43 (Cancelled)

44. (Previously presented) A method for effecting a desired curvature of the spine comprising:

1) implanting a plurality of anchor assemblies having bases and a first and second locking means into vertebrae of the spine, wherein the bases of the anchor assemblies are unlocked for free movement;

2) interconnecting each of the plurality of anchor assemblies within a receiver of a support element, wherein the anchor assemblies are unlocked within the receiver;

3) compressing or distracting the bases of one or more of the plurality of anchor assemblies in relation to each other to affect the vertebrae of the spine;

4) locking the bases within the anchor assemblies using the first locking means; and

5) locking the anchor assemblies within the support element using the second locking means, where the plurality of anchor assemblies and second locking means do not pass through the support element when the plurality of anchor assemblies are locked within the support element by the second locking means.

45. (Previously presented) The method of claim 44, wherein:

the receiver and the anchor assemblies are configured in an interconnecting geometry comprising a T-slot and the T-slot in the receiver comprises a planar upper face, a planar lower face and a planar medial face and the second locking means includes a locking aperture and a setscrew disposed within the locking aperture; and

locking the anchor assemblies within the support element includes threading the setscrew in the locking aperture to lockably engage the receiver planar upper face and upon so engaging the receiver planar upper face, the setscrew causes the anchor assembly to press against the receiver lower planar face to effect locking.

46. (Previously presented) The method of claim 44, wherein:

the receiver and the anchor assemblies are configured in an interconnecting geometry comprising a T-slot and the T-slot in the receiver comprises a planar upper face, a planar lower face and a planar medial face and the second locking means includes a locking aperture and a cam disposed within the locking aperture; and

locking the anchor assemblies within the support element includes turning the cam to lockably engage the receiver planar upper face and upon so engaging the receiver planar upper face, the cam causes the anchor assembly to press against the receiver lower planar face to effect locking.

47. (Previously presented) The method of claim 44, wherein:

the receiver and the anchor assemblies are configured in an interconnecting geometry comprising a T-slot and the T-slot in the receiver comprises a planar upper face, a planar lower face and a planar medial face and the second locking means is comprised of a threaded blind aperture having a slot substantially aligned longitudinally with the receiver thereby providing expandable walls, a floor having a cut channel therethrough and a setscrew; and

locking the anchor assemblies within the support element includes turning the setscrew into the blind aperture to outwardly expand the expandable walls and engage the expandable walls to the receiver planar medial surface to effect locking.

48. (Previously presented) The method of claim 44, wherein:

the second locking means further comprises a base and a base head where the base head is configured to lock the base head to the base using a cam; and

locking the anchor assemblies within the support element includes turning the cam to engage the base head with the cam and effect locking.

49. (Previously presented) The method of claim 44, wherein compressing or distracting the bases of one or more of the plurality of anchor assemblies in relation to each other affects the lordotic or kyphotic curvature of the vertebrae.

50. (Previously presented) The method of claim 44, wherein compressing or distracting the bases of one or more of the plurality of anchor assemblies in relation to each other affects the displacement of the vertebrae.